

Title (en)

Signal processing device and signal processing method

Title (de)

Vorrichtung und Verfahren zur Signalverarbeitung

Title (fr)

Dispositif et procédé de traitement de signal

Publication

EP 2842480 A1 20150304 (EN)

Application

EP 13182051 A 20130828

Priority

US 201314010562 A 20130827

Abstract (en)

Embodiments of the invention disclose a signal processing device and a signal processing method and a device and a method for signal processing. The signal processing device includes a sampling module, a first segmentation module, a second segmentation module, and a detection module. The sampling module samples an input signal to generate a sample signal. The first segmentation module calculates a first segment value according to the sample signal during a first time interval. The second segmentation module calculates a second segment value according to the sample signal during a second time interval different in length from the first time interval. The detection module generates a detection signal according to the determination of whether the first segment value lies out of a first range, and whether the second segment value lies out of a second range.

IPC 8 full level

A61B 5/00 (2006.01); **A61B 5/308** (2021.01); **G06K 9/00** (2006.01)

CPC (source: CN EP US)

A61B 5/30 (2021.01 - EP US); **A61B 5/316** (2021.01 - EP US); **A61B 5/318** (2021.01 - CN); **A61B 5/349** (2021.01 - EP US);
A61B 5/7203 (2013.01 - CN EP US); **H03H 21/0021** (2013.01 - US); **H03H 21/0025** (2013.01 - US); **A61B 5/725** (2013.01 - EP US);
G06F 2218/04 (2023.01 - EP US); **G06F 2218/16** (2023.01 - EP US); **H03H 2021/0081** (2013.01 - US); **H03H 2021/0094** (2013.01 - US);
H03H 2210/033 (2013.01 - US)

Citation (search report)

- [XI] EP 1995685 A2 20081126 - BIOTRONIK CRM PATENT AG [CH]
- [XI] DE 10358397 A1 20050714 - MCC GES FUER DIAGNOSESYSTEME I [DE]
- [XI] WO 2012129413 A1 20120927 - DRAEGER MEDICAL SYSTEMS INC [US], et al
- [A] EP 2294978 A1 20110316 - IMEC [BE]
- [A] US 2010318151 A1 20101216 - SAHA SUNIPA [US], et al
- [A] VESSELA KRASTEVA ET AL: "Assessment of ECG frequency and morphology parameters for automatic classification of life-threatening cardiac arrhythmias; Assessment of ECG frequency and morphology parameters", PHYSIOLOGICAL MEASUREMENT, INSTITUTE OF PHYSICS PUBLISHING, BRISTOL, GB, vol. 26, no. 5, 1 October 2005 (2005-10-01), pages 707 - 723, XP020092224, ISSN: 0967-3334, DOI: 10.1088/0967-3334/26/5/011
- [A] KOSKI A ED - CALDERARA SIMONE BANDINI STEFANIA CUCCHIARA RITA: "Primitive coding of structural ECG features", PATTERN RECOGNITION LETTERS, ELSEVIER, AMSTERDAM, NL, vol. 17, no. 11, 16 September 1996 (1996-09-16), pages 1215 - 1222, XP004025305, ISSN: 0167-8655, DOI: 10.1016/0167-8655(96)00079-7
- [A] CHRIS F ZHANG ET AL: "VLSI Friendly ECG QRS Complex Detector for Body Sensor Networks", IEEE JOURNAL ON EMERGING AND SELECTED TOPICS IN CIRCUITS AND SYSTEMS, IEEE, PISCATAWAY, NJ, USA, vol. 2, no. 1, 1 March 2012 (2012-03-01), pages 52 - 59, XP011441042, ISSN: 2156-3357, DOI: 10.1109/JETCAS.2012.2187706

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 2842480 A1 20150304; EP 2842480 B1 20180704; CN 104414632 A 20150318; CN 104414632 B 20160824; US 2015061758 A1 20150305;
US 9438204 B2 20160906

DOCDB simple family (application)

EP 13182051 A 20130828; CN 201410158970 A 20140421; US 201314010562 A 20130827